

**What is claimed is:**

1. A moving picture coding method for coding a moving picture signal on a picture-by-picture basis and generating a coded stream, the method comprising:

5 a flag information generation step of generating flag information indicating that a picture order is non-sequential; and  
an information insertion step of inserting the flag information into the coded stream.

10 2. The moving picture coding method according to Claim 1, wherein in the flag information generation step, when values indicated by display order information of the pictures are in non-sequential order, it is determined that the picture order is non-sequential.

15 3. The moving picture coding method according to Claim 1, wherein in the flag information generation step, when values indicated by coding order information of the pictures are in non-sequential order, it is determined that the picture order is non-sequential.

20 4. The moving picture coding method according to Claim 1, wherein in the information insertion step, the flag information is inserted between two pictures in the coded stream, said two pictures being non-sequential in picture order.

5. The moving picture coding method according to Claim 1, further comprising a position information generation step of generating position information for identifying a position where the picture order is non-sequential, and

30 wherein in the information insertion step, the position information is inserted together with the flag information.

6. A moving picture coding method for coding a moving picture signal on a picture-by-picture basis and generating a coded stream, the method comprising a coding step of coding a picture in a manner in which the picture is included in a coding unit located after a predetermined coding unit, said picture whose position is later than  
5 a position of a first intra picture among pictures included in the predetermined coding unit in display order, said predetermined coding unit being made up of a plurality of pictures.

10 7. The moving picture coding method according to Claim 6, wherein in the coding step, a display order of pictures in the predetermined coding unit is sequential, and is located earlier than a display order of pictures in a predetermined coding unit immediately following said predetermined coding unit in coding  
15 order.

8. A moving picture decoding method for decoding a coded stream on a picture-by-picture basis, the method comprising:  
an information extraction step of extracting flag information  
20 indicating that a picture order is non-sequential; and  
a management step of managing an area for storing a decoded picture based on the flag information.

9. The picture decoding method according to Claim 8,  
25 wherein the flag information indicates that values indicated by display order information of the pictures are in non-sequential order, and

in the management step, a picture whose position is the earliest in display order among decoded pictures stored in the area  
30 is determined based on the display order information and the flag information, and the determined picture is determined as a picture to be removed.

10. The moving picture decoding method according to Claim 9,  
wherein in the management step, clip information is given to  
the decoded picture stored in the area, said clip information being  
5 updated when the flag information is extracted, and a picture whose  
position is the earliest in display order among the decoded pictures  
stored in the area is determined based on the display order  
information and the clip information, and the determined picture is  
determined as a picture to be removed.

10 11. The moving picture decoding method according to Claim 8,  
further comprising an invalid picture storage step of storing an  
invalid picture in the area when values indicated by coding order  
information of the pictures are in non-sequential order,

15 wherein the flag information indicates that the values  
indicated by the coding order information are in non-sequential  
order,

in the management step, whether or not to store an invalid  
picture in the area is determined based on the flag information and  
20 the coding order information, and

in the invalid picture storage step, an invalid picture is stored  
in the area based on a result of the determination made in the  
management step.

25 12. A moving picture coding apparatus for coding a moving  
picture signal on a picture-by-picture basis and generating a coded  
stream, the apparatus comprising:

a flag information generation unit operable to generate flag  
information indicating that a picture order is non-sequential; and

30 an information insertion unit operable to insert the flag  
information into the coded stream.

13. A moving picture decoding apparatus for decoding a coded stream on a picture-by-picture basis, the apparatus comprising:

an information extraction unit operable to extract flag information indicating that a picture order is non-sequential; and

5 a management unit operable to manage an area for storing a decoded picture based on the flag information.

14. A program for coding a moving picture signal on a picture-by-picture basis and generating a coded stream, the

10 program causing a computer to execute:

a flag information generation step of generating flag information indicating that a picture order is non-sequential; and

an information insertion step of inserting the flag information into the coded stream.

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15. A program for decoding a coded stream on a picture-by-picture basis, the program causing a computer to execute:

an information extraction step of extracting flag information indicating that a picture order is non-sequential; and

20 a management step of managing an area for storing a decoded picture based on the flag information.